

REMARKS

Claims 1-9, 11-14, 16-19, 21-30 and 46 are pending in this application. Claims 10, 15, 20 and 31-45 are cancelled. Claim 46 is newly added.

Applicant thanks the Examiner for the telephonic interview of November 29, 2004, in which Examiner summarized the remarks made in the Advisory Action mailed November 29. Applicants also thank the Examiner for his assurance that the remarks made in the After-Final response filed October 29, 2004, and included in the Request for Continued Examination filed November 24, 2004, would be fully considered and were sufficient to avoid a Final Rejection in the first Office Action. Applicant respectfully requests consideration of the following remarks as well.

The Advisory Action dated November 29, 2004 states that the request for reconsideration has been considered but does not place the application in condition for allowance because "Applicant's statement in the paragraph bridging pages 12 and 13 that none of the references relied on in combination is refuted by the statement of the rejections under 35 USC 103 in the office action mailed 8/26/04 contain the argument that the invention of the instant claims, including the named limitations, are suggested by the combination of references relied on." Applicants respectfully submit that a more detailed showing of motivation is required, specifically, that the Office Action must describe the motivation for each step of the combination of references relied on in an obviousness rejection.

The Advisory Action goes on to state that "Applicant does not point to a particular limitation missing from all of the references but instead argues the references individually as not containing combinations of recited limitations." Here, Applicants respectfully submit that the burden is not on the Applicants to point to a particular missing limitation when an Office Action fails at the outset to make out a prima facie

case of obviousness. “The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done.” MPEP § 706.02(j) “To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner *must present a convincing line of reasoning* as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.” *Id.* (quoting Ex parte Clapp, 227 USPQ 972, 973 (B.P.A.I. 1985) (emphasis added). A mere statement that a reference suggests a specific combination is not sufficient to show that it would have been obvious to combine one reference with another. “It is important for an examiner to properly communicate the basis for a rejection [and] that the written record clearly explain the rationale for decisions made during prosecution of the application.” *Id.*

The Advisory Action does not address Applicants’ argument that the final rejection relies on improper hindsight in combining the references; Applicants reiterate that it is improper to use Applicant’s disclosure as a roadmap for combining references. “The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant’s disclosure.” In re Vaeck, 947 F.2d 488, (Fed. Cir. 1991); MPEP § 706.02(j) (emphasis added).

Every Office Action in this application, dating back to the very first Office Action dated May 8, 2002, has relied on a portion of Applicants’ specification for every rejection of every claim under 35 U.S.C. § 103(a). In every claim rejection, the Office Actions rely on page 8, line 13 to page 9, line 11 of the instant application as providing motivation to “employ methylsesquiazane [sic] as the low-k material 206 including direct patterning using masked UV or e-beam irradiation followed by developing in TMAH,” (Office Action mailed March 3, 2004, referenced in Final Office Action mailed

August 26, 2004), referring to this passage generally as “Applicants’ Admitted Prior Art” (“AAPA”). Applicants respectfully submit, however, that Applicants’ admitted prior art consists only of what appears in the original Kikkawa article, incorporated by reference into the application, but not Applicant’s discussion of the article, which is part of the overall disclosure of Applicants’ claimed subject matter. While page 8, line 13 to page 9, line 11 discuss the prior art Kikkawa article in some detail, neither the Application, nor any subsequent response by Applicants make any admission that the entire passage is admitted prior art.

To date, no rejection has referenced the Kikkawa article directly; instead, every rejection relies on statements from Applicants’ disclosure in finding motivation to combine the references. This is improper. As stated above, “The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and *not based on applicant’s disclosure.*” In re Vaeck.

Indeed, the Lopatin reference teaches away from Applicants’ claimed subject matter and highlights the problems in the prior art that Applicants’ claimed subject matter is designed to solve: The process described by Lopatin is, first and foremost, entirely different either from the process shown by Huang, and from Applicants’ claimed subject matter. Even assuming, *arguendo*, that Lopatin is sufficiently analogous with Huang that their steps are interchangeable, Lopatin includes additional and alternate steps, including depositing a thin pre-seed layer using ALD, and depositing a thick pre-seed layer using CVD before depositing a copper layer; Lopatin’s process is an example of the type of inefficient process that Applicants’ claimed subject matter is designed to improve upon, in part by eliminating process steps.

Courts have generally recognized that a showing of a *prima facie* case of obviousness necessitates three requirements: (i) some suggestion or motivation, either

in the references themselves or in the knowledge of a person of ordinary skill in the art, to modify the reference or combine the reference teachings; (ii) a reasonable expectation of success; and (iii) the prior art references must teach or suggest all claim limitations. See e.g., In re Dembiczak, 175 F.3d 994 (Fed. Cir. 1999); In re Rouffet, 149 F.3d 1350, 1355 (Fed. Cir. 1998); Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc., 75 F.3d 1568, 1573 (Fed. Cir. 1996).

Accordingly, Applicants respectfully request that future obviousness rejections, if any, include a full explanation of elements, alterations and motivational statements found in each reference relied upon.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

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Respectfully submitted,

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